

November 2009

## **DRAFT: Bachelor of Science in Integrated Plant Sciences Washington State University Moderate Degree Change Proposal**

### **Introduction**

Washington State University (WSU) currently offers Bachelor of Science degrees in Horticulture, Crop Science, and Soil Science. WSU seeks Higher Education Coordinating Board (HECB) approval of a Moderate Degree Change proposal to consolidate these degrees into a single Bachelor of Science in Integrated Plant Sciences (BSIPS) degree with seven options. The program would accommodate 80 FTE students beginning fall 2009, increasing to 160 FTE students by fall 2014.

### **Proposed Change Description and Rationale**

The proposed change would consolidate three existing plant science-based degrees currently offered by the College of Agricultural, Human, and Natural Resource Sciences (CAHNRS) into a single degree, reducing the total number of options from 10 to 7.<sup>1</sup> The consolidation is based on recommendations from the Academic Affairs Program Prioritization (A2P2) process at WSU and has been approved by the provost, the Academic Affairs Committee, and the Faculty Senate. WSU has determined that the level of overlap and duplication among the existing degrees has contributed to less than optimum enrollment and graduate numbers. It is proposing to consolidate the existing degrees into a single BSIPS degree in order to reduce duplication, gain efficiency, and improve degree attractiveness to students and employers.

Students currently enrolled in the three programs would have a choice of either completing the existing degree or opting into the new degree program. Program planners consulted with students majoring in the three programs and determined that most students would prefer the new degree.

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<sup>1</sup> The seven proposed BSIPS options are: Agricultural Biotechnology, Field Crop Management, Fruit and Vegetable Management, Landscape Design and Implementation, Nursery and Greenhouse Management, Turfgrass Management, and Viticulture and Enology. The existing degrees and options are: BS in Horticulture (with Environmental Horticulture, Fruit and Vegetable, and Viticulture and Enology options), BS in Crop Science (with Business and Industry, Cropping Systems, Science/Biotechnology, and Turf Management options), and BS in Soil Science (with Environmental, Management, and Sustainable Agriculture options).

The new BSIPS degree would be grounded in a common set of General Education Requirement (GER) courses and centered on a required set of interdisciplinary core courses. These core courses would give students a foundation of plant science-related knowledge on which they would build by pursuing one or more of the options. The core courses would allow students to explore interdisciplinary aspects of plant sciences, and the options would allow them to choose study emphases that best suit their career interests.

The proposed change would facilitate communication about the program with students. One interdisciplinary degree with seven distinct options is much easier to explain than three degrees with 10 options. It also would allow students enrolled in one degree option to change to another option more easily. This would prevent students who switch from taking unnecessary hours and reduce overall time to degree.

The proposed change would benefit employers, who would be able to choose graduates from a student pool with distinct skill sets and a more holistic general understanding of the subject matter.

The curriculum of the new BSIPS program closely corresponds to skill and knowledge needs identified in a 2006 survey of agribusiness employers. By more closely tailoring degree options to workforce needs, the program will advance a key goal of the *Strategic Master Plan for Higher Education* to drive greater prosperity, innovation, and opportunity.

The proposed change also will help WSU address lower levels of enrollment in the field by increasing efficiency. More enrollments in a single, interdisciplinary program translate to increased class sizes and fewer overall courses. In addition, the new program will reduce duplication and require less advising, tracking, and record-keeping to monitor student progress.

Table 1 compares options before and after the proposed changes. Across all of the options, the BSIPS curriculum overlaps significantly with the curricula of the existing degrees.<sup>2</sup> The main difference between the pre- and post-change programs is that the BSIPS is based on an interdisciplinary set of core courses essential to students majoring in plant science, regardless of which option they choose. This expansion in breadth of exposure to core topics should better equip students to deal with complex issues in plant sciences.

The proposed change would not significantly affect target student audience, admission requirements, location, delivery mode, scheduling, faculty, or facility use. In addition, the proposed change would not require significant start-up or ongoing expenditures and should result in cost savings through increased efficiency.

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<sup>2</sup> HECB staff analyzed the pre- post-change curricula by examining advising sheets provided by WSU for the amount of overlap in required courses. Based on this analysis, staff determined that the curriculum is similar enough to fit within the criteria for a moderate change.

**Table 1**

<b>Pre-Change Major: Option</b>	<b>Post-Change Major: Option</b>
BS Horticulture: Fruit and Vegetable	BS Integrated Plant Sciences: Fruit and Vegetable Management
BS Horticulture: Viticulture and Enology	BS Integrated Plant Sciences: Viticulture and Enology
BS Horticulture: Environmental	BS Integrated Plant Sciences: Nursery and Greenhouse Management and BS Integrated Plant Sciences: Landscape Design and Implementation <sup>3</sup>
BS Crop Science: Cropping Systems	BS Integrated Plant Sciences: Field Crop Management
BS Crop Science: Science/Biotechnology	BS Integrated Plant Sciences: Agricultural Biotechnology
BS Crop Science: Turf Management	BS Integrated Plant Sciences: Turfgrass Management

*Source: adapted from a table provided by WSU.*

## External Review

The proposal was reviewed by Dr. Linda Martin, Associate Dean and Director of Academic Programs, College of Food, Agricultural, and Environmental Sciences, The Ohio State University. She strongly endorsed the BSIPS program, stating “This proposal is strategic, innovative, and forward-thinking, and will ensure a high quality program that more effectively meets the needs of stakeholders.”

She noted that enrollments have declined in some of the more traditional programs nationwide and that disciplines have become much more integrated, spanning traditional disciplinary boundaries. She said the proposed changes reflect changing trends in the field and applauded the program’s design, noting its strength in providing a common set of core courses while also offering tracks that address more specialized coursework. She stated this design would encourage interdisciplinary thinking and learning, and predicted the proposed change would allow WSU to become more competitive in attracting high-quality students.

<sup>3</sup> Both the post-change Nursery and Greenhouse Management and Landscape Design and Implementation options evolved from the pre-change BS Horticulture: Environmental option. Greenhouse Management emphasizes growing and managing plants in nursery or greenhouse settings, whereas Landscape Design and Implementation emphasizes placing and managing these plants in appropriate landscape settings.

## **Staff Analysis**

The consolidation proposed by WSU meets the eligibility criteria for a Moderate Degree Change. It starts out with pre-change programs that have established track records of enrolling and graduating students, although not at optimum levels. The proposed change is a response to low enrollment.

Providing a more integrated curriculum is more efficient and also should attract more students. The post-change curricular requirements are not sufficiently different from pre-change requirements to warrant a new full degree proposal from WSU.

The proposed consolidation would not alter faculty or other resource requirements, so start-up and ongoing costs related to the change would be negligible. Furthermore, the proposed change should result in cost savings through increased efficiency.

WSU submitted sufficient evidence that the proposed change would benefit students, employers, and the community. Students would benefit from the interdisciplinary emphasis of the post-change curriculum and increased flexibility. Employers would benefit from more holistically trained graduates. This benefit to employers aligns with the overall *Strategic Master Plan* goal of driving greater economic prosperity, innovation, and opportunity. The community would benefit from increased efficiency at WSU and the institution's enhanced ability to attract quality students.

Finally, the external reviewer enthusiastically supported the proposed change, applauded the program's design, and noted that the proposed changes reflect changing trends in the field.

## **Staff Recommendation**

After careful review of the proposal and supporting materials, staff recommends approval of the Bachelor of Science in Integrated Plant Sciences at Washington State University. The HECB's Education Committee discussed the proposal during its November 9, 2009 meeting and recommended approval by the full Board.

**RESOLUTION 09-28**

**WHEREAS,** Washington State University proposes to offer a Bachelor of Science in Integrated Plant Sciences; and

**WHEREAS,** The Bachelor of Science in Integrated Plant Sciences would result from the consolidation of existing Bachelor of Science degrees in Horticulture, Crop Science, and Soil Science; and

**WHEREAS,** The consolidation meets the eligibility criteria for a Moderate Degree Change; and

**WHEREAS,** The consolidation would promote cost savings through increased efficiency; and

**WHEREAS,** The consolidation would benefit students by providing greater flexibility than the pre-consolidation programs, and by emphasizing the interdisciplinary nature of plant sciences; and

**WHEREAS,** The consolidation would benefit employers by resulting in a degree program that produces graduates who have had holistic interdisciplinary plant sciences training; and

**WHEREAS,** By providing such training, the proposed program would align with the *Strategic Master Plan* goal of driving greater economic prosperity, innovation, and opportunity; and

**WHEREAS,** The consolidation would benefit the community by improving efficiency at Washington State University and attracting high quality students;

**THEREFORE, BE IT RESOLVED,** That the Higher Education Coordinating Board approves the Bachelor of Science in Integrated Plant Sciences effective November 19, 2009.

Adopted:

November 19, 2009

Attest:

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Jesús Hernandez, Chair

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Roberta Greene, Secretary